LESSONS LEARNED AND BEST PRACTICES DATABASE USER MANUAL

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Ernest Orlando Lawrence Berkeley National Laboratory

RECORD OF REVISION

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1.0 Introduction

The Lessons Learned and Best Practices Program is part of the Lawrence Berkeley National Laboratory (LBNL) Issues Management Program, which was developed so that LBNL management can ensure ongoing improvement of safety and reliability, prevent the recurrence of significant adverse events/trends, and determine implementation strategies that will help LBNL successfully meet the missions and goals set forth by the Department of Energy (DOE).

Based on operating experience information transmitted from the Federal Government and industry, and from LBNL's own operating experience, Lessons Learned and Best Practices Briefings are developed and disseminated to applicable personnel and organizations, including LBNL personnel located at other locations.

The Lessons Learned/Best Practices Database is an online tool that may be used by any LBNL employee to document, route for review and approval, and disseminate internal or external Lessons Learned or Best Practices to specified target audiences. Additionally, this database which is accessible from anywhere in the world enables LBNL employees to search for Lessons Learned or Best Practices for general information, work planning, or trend and analysis purposes. This database is designed with extensive reporting capabilities so that the data captured in the database may be used to gage effectiveness of the program.

2.0 Functional Requirements and System Limitations, Including Hardware

2.1 Functional Requirements

The database was designed to achieve the following:
- Development, review and approval of Lessons Learned and Best Practice Briefings
- Automatic generation of Briefing numbers, Initiator and Reviewer names, and date/time status indicators
- Automatic enforcement of required fields prior to submitting the form, with no required order in which the fields must be completed.
- Automatic dynamic fields that show/hide certain fields depending on the briefing type and specific fields selected by Users
- Automatic notifications of Briefing review and completion as well as routing and rerouting to specific personnel for review and approval
- Browse and attach capability for photographs, supporting documentation and various files
- Display, preview and print capability for all Briefings in HTML
- Save capability for all Briefings in various stages of development or modification

- Automatic routing of Lessons Learned Feedback Forms to the Target Audience and original Reviewers
- Online completion of Lessons Learned Feedback Forms
- Search and sort capabilities on all fields, by specific date(s) and/or date range(s), and key words or combinations of key words for both Briefings and Feedback Forms
- Reporting capabilities
- Link capability between Briefing and Feedback Forms by Briefing number
- Export capabilities into programs such as Excel
- Maintain all data entered into the database for Briefings and Feedback Forms
- Establish and maintain access controls
- Identification of the number of times a Briefing has been viewed
- Format output of previewed and hardcopy Briefings include:
  - Font: Arial
  - Size: 11pt
  - Text Color: Black
  - Section Titles: Bold
  - Text Sections: Non-Bold
  - Photos: Displayed after the "Best Practice" statement or the "Lessons Learned Discussion" field.
- Automatically route a Lessons Learned Feedback Form to a sample of Briefing recipients
- Ability to search feedback data
- Email notification to reviewers when the Feedback Form is saved
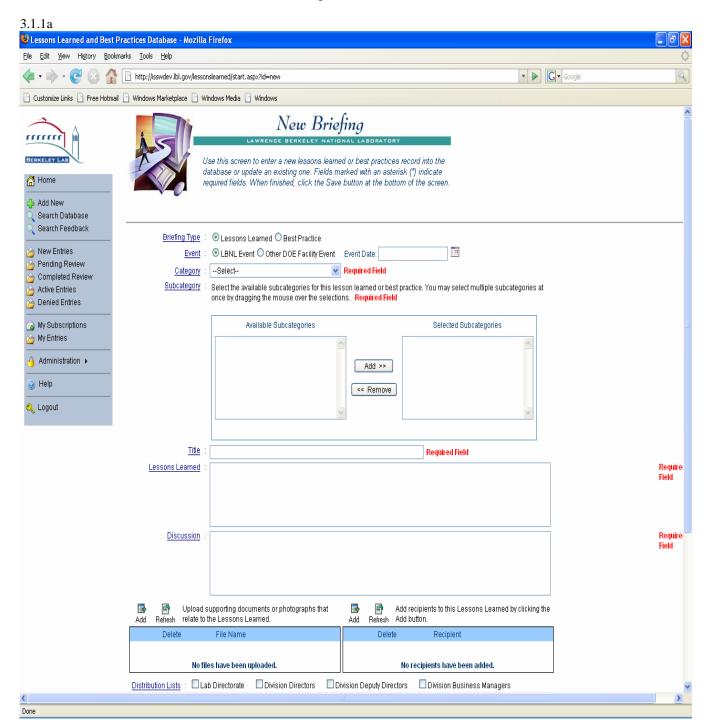- Ability to clone a briefing

2.2   System Limitations

Users must have internet access and a valid LDAP username and password in order to access the Lessons Learned/Best Practices Database.

3.0   User Interaction with the Lessons Learned/Best Practices Database

The Database is located on the LBNL Homepage A-Z Listing under "Lessons Learned Database" and on the Office of Contract Assurance (OCA) webpage. To use this database, sign in using the appropriate LDAP Login and password.
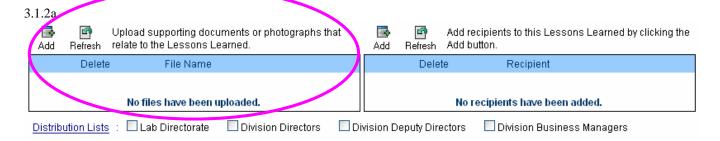
3.1   Creation of Lessons Learned/Best Practice Briefings

      3.1.1   Initiator, to develop a new Lessons Learned/Best Practice Briefing, click on the "Create New Lessons Learned/Best Practice" link and complete the fields as required. See *Attachment 1 – Creating Lessons Learned/Best Practice Briefings* for details on what is required for each field.
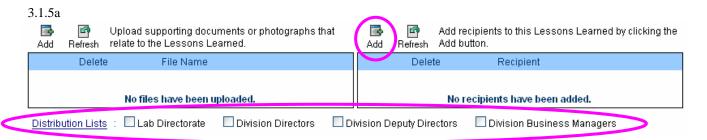
3.1.1a

3.1.2   Initiator, select the "Add" button where it states to "Upload supporting documents or photographs that relate to the Lessons Learned" to upload documents after required fields are completed.
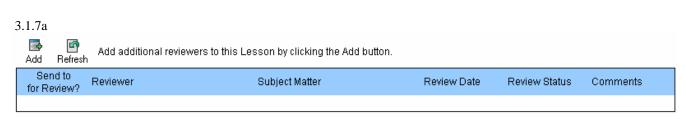
3.1.2a

3.1.3   Initiator, click on the "Browse" button

3.1.4   Initiator, select the file to be uploaded.

3.1.5   Initiator, to add additional recipients to those pre-designated by the chosen subcategory, select the "Add" button to choose/sroll to the names of additional recipients and or selecting the appropriate pre-set distribution list.
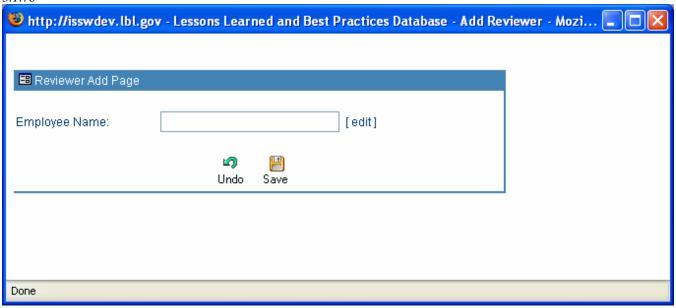
3.1.5a

3.1.6   Initiator, select the appropriate Priority Boxes and ISM code.
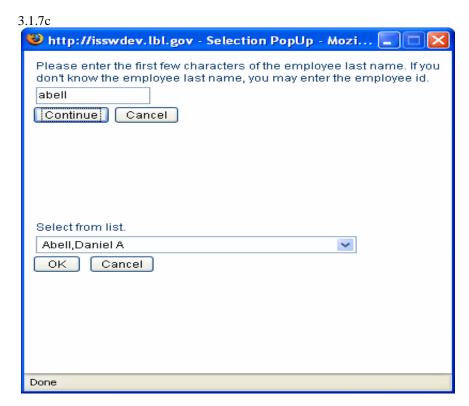
3.1.6a

3.1.7   Initiator, to add additional reviewers to those pre-designated by the chosen Subcategory may be added, select the "Add" button to choose/scroll to and/or type in the names of additional Reviewers.

3.1.7a

3.1.7b

3.1.7c

3.1.8   Initiator, click on the "Save" button to save the Briefing and to generate the Briefing number.

3.1.9   Initiator, click on the "Route" button to route the Briefing to the appropriate Reviewers.

3.2   Review/Approval of Lessons Learned/Best Practice Briefings

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NOTE

Multiple reviewers may be requested by the system to review a Lessons Learned/ Best Practice Briefing. Once one reviewer in a particular subcategory has completed the review/approval process, any others in the same subcategory will be automatically removed by the database.

Once a new Lessons Learned/Best Practice is developed and saved by the Initiator, a notification via email is automatically routed to pre-designated Reviewer(s) based on the Category/Subcategory selected.

3.2.1   Reviewer(s), upon email notification that a Briefing is ready for review, click on the link to see the Briefing and links to any supporting documentation the Initiator has uploaded during development.

3.2.1a

3.2.2   Reviewer(s), click on the link to open the Briefing and links to any supporting documentation the Initiator has uploaded during development.

NOTE

Comments are not required to be entered into the "Comments" field if a Briefing is approved.

3.2.3   Reviewer(s), to approve a Briefing, select the "Approve" button.

3.2.4   Reviewer(s), to add additional reviewers, Select the "Add" button to choose/scroll to and/or type in the name of additional Reviewers.
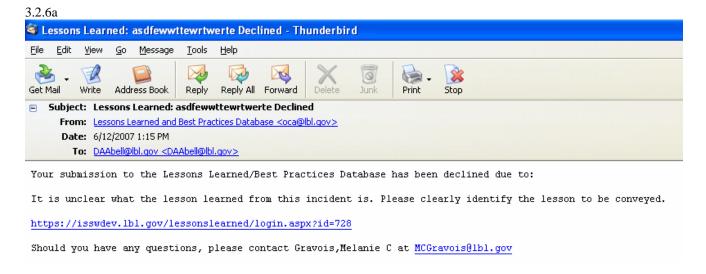
NOTE

Upon approval, the Initiator is automatically notified via email, and the Briefing is automatically sent to the target audience, which is driven by the "Subcategory" field chosen when the Briefing was initiated.

> 3.2.5   Reviewer(s), to deny a Briefing, identify the reasons for the denial in the "Comments" field and then select the "Deny" button to automatically notify the Initiator via email that the Briefing was denied .

3.2.5a

> 3.2.6   Initiator, upon notification that a Briefing was denied, resolve the issues identified for the denial of the Briefing.

3.2.6a

> 3.2.7   Initiator, upon resolution of the issues identified by the Reviewer(s), re-route it to all of the original Reviewer(s) by clicking the "Route" button to initiate the review and approval process.

3.3   Saving Lessons Learned/Best Practice Briefings

3.3.1   Initiator, select the "Save" button at any time during the development or modification of a Briefing.

3.4   Previewing and Printing Lessons Learned/Best Practice Briefings

3.4.1   Initiator, at any point during the development process, select the "Preview" button for a preview of what the Briefing currently looks like or the "Print" button to print a hard copy of the Briefing

3.5   Searching for Lessons Learned/Best Practice Briefings and Lessons Learned Feedback Forms

NOTE

Any field or combination thereof may be selected for this search. If a specific field is not required, a specific date or date range may be selected.

3.5.1   User, click on the "Search Database" link on the left hand side of the screen to search all or selected fields from existing Lessons Learned/Best Practices.

3.5.1a

3.5.2   User, select the fields of interest and click the "Submit" button with completed.

3.5.3   User, select the appropriate "Export to Excel" button to export the data.

3.5.3a

3.6   Receiving, Completing and Viewing Lessons Learned Feedback Forms

NOTE

A random sample of people who receive Lessons Learned Briefings will also receive an e-mail invitation to complete a Lessons Learned Feedback Form.

3.6a

Feedback forms may also be accessed via a link at the bottom of an active Briefing.

3.6b

3.6.1　User, upon receipt of the e-mail or upon opening an active Lessons Learned Briefing, click on the appropriate link to open the Feedback Form and fill out the appropriate fields.

3.6.1a

3.6.2　User, select the "save" button to save and route the Feedback Form to the original reviewers of the Briefing.

3.6.3   User, to view feedback for a specific briefing, click on the link at the bottom of the Lessons Learned Briefing.

3.6.3a

3.7   Cloning a Briefing

NOTE

Cloning a Briefing to make changes to an existing active Briefing, creates a new Briefing. This process will require the new Briefing to go through the review and approval process.

3.7.1   Initiator, select the "Clone" button to change an existing active Briefing.

3.7.2   Initiator, modify the Briefing.

3.7.3   Initiator, GO TO step 3.1.2 to continue the development process for the Briefing.

4.0   Training Requirements

There is no mandatory training requirement or program to use the Lessons Learned/Best Practices Database. However, recommended training sessions are periodically offered by the OCA.

5.0   Input and Output Specifications

5.1   Lessons Learned/Best Practices Briefings and Lessons Learned Feedback Form Input/Output Specifications

5.1.1   Lessons Learned/Best Practices Briefings and Lessons Learned Feedback Form Input Specifications

The tables outlined in Attachments 1 and 2 identify the data entry fields and what the field is used for.

5.1.2   Lessons Learned/Best Practices Briefings and Lessons Learned Feedback Form Output Specifications

The data entered into the fields described in Attachments 1 and 2 may be displayed in the following formats:

- Electronically
- Preview, in accordance with Attachments 3 and 4
- Hard Copy, in accordance with Attachments 3 and 4

6.0   Input and Output Formats

6.1   Lessons Learned/Best Practices Input/Output Formats

6.1.1   Lessons Learned/Best Practices Input Format

Input formats may contain alphanumeric, numeric and date fields that can accommodate from 500 to 4 billion characters. In addition, photographs and documentation files may be uploaded to the database.

Field	Input Format
Type of Briefing	Two values can be selected; Lessons Learned or Best Practices
Event	Two values can be selected; LBNL Event or Other DOE Facility
Category	Seven values may be selected; ES&H, Facilities, Finance, Human Resources, Information Technology, Procurement, Property
Subcategory	Twenty subcategories under ES&H may be selected; • Biological • Chemical • Construction Safety • Cranes and Hoists • Cryogenics • Electrical • Emergency Preparedness • Environmental • Ergonomics • Fire • Health & Wellness • Industrial Hygiene • Laser • Radiological • Respiratory Protection • Seismic • Shops Safety • Slips, Trips, Falls • Traffic Safety • Waste Management

Field	Input Format
Subcategory	Eighteen subcategories under Facilities may be selected: • Bus Services • Cafeteria Services • Custodial Services • Emergency Response • Engineering • Fleet • Garbage Services • Inspection • Maintenance • Pest Management • Planning & Architecture • Preventive Maintenance • Project Management – Planning Design/Construction • Project Management – Scheduled Work • Shipping/Receiving • Transportation • Warehousing • Work Requests
Subcategory	Three subcategories under Finance may be selected: • Accounting • Financial Management • OMB A-123 One subcategory under Human Resources may be selected: • General HR Two subcategories under Information Technology may be selected: • Cyber • IT Two subcategories under Procurement may be selected: • E-Commerce • Subcontracting Three subcategories under Property may be selected: • Excess Property • Inventory • Sensitive Items
Lessons Learned/Best Practice #	Automatically identified by the database. Format is Identifier, Fiscal Year, Hyphen, 4 digits chronological in nature. Example: LL07-0001, BP07-0001
Title	Alpha Numeric, up to 500 characters

Field	Input Format
Event Date	Numeric Characters, format as (mo/day/full year) XX/XX/XXXX
Lesson Learned/ Best Practice	Alpha Numeric, up to 4 gigabytes
Discussion	Alpha Numeric, up to 4 gigabytes
Analysis	Alpha Numeric, up to 4 gigabytes
Summary	Alpha Numeric, up to 4 gigabytes
Upload Additional Information	Unlimited and any type of file may be uploaded.
Priority Boxes	Four checkboxes may be selected: ORPS Reportable, OSHA Recordable, PAAA Reportable or Other
ISM Code	Five values may be selected: 1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls 5) Provide Feedback and Continuous Improvement

6.1.2   Lessons Learned/Best Practices Output Format

Output formats are electronic or hard-copy Briefings. An example of the Lessons Learned format is shown on Attachment 3. An example of the Best Practices format is shown on Attachment 34

6.2   Lessons Learned Feedback Form Input/Output Formats

6.2.1   Lessons Learned Feedback Form Input Format

Field	Input Format
Lessons Learned #	Automatically identified by the database. Format is Identifier, Fiscal Year, Hyphen, 4 digits chronological in nature. Example: LL07-0001, BP07-0001
Feedback by	Optional field. Format is alpha-numeric.
Organization	Twenty-three values may be selected: • Accelerator & Fusion Research • Advanced Light Source • Office of Chief Finance Officer • Chemical Sciences • Computational Research Division • Environmental Energy Tech • Engineering • Environment, Health & Safety • Earth Sciences • Facilities

Field	Input Format
Organization	- Genomics Division - Human Resources - Information Technology Div - Laboratory Directorate - Life Sciences - Materials Sciences - NERSC - Nuclear Sciences - Operations Division - Public Affairs - Physical Biosciences - Physics
Received by	Five values may be selected: - Email - Required Reading - Staff Meeting - Safety Meeting - Other
Action Taken	Five values may be selected: - Training - Work Control Development/Revision - Procedure/Document Development/Revision - Process Development/Revision - Other

6.2.2   Lessons Learned Feedback Form Output Format

Output formats are electronic.

7.0   Mathematical Models/Derivation of Numerical Methods

N/A

8.0   Troubleshooting

Problem	Potential Cause	Resolution
Software is not launching or is timed out	- LBNL Network is down or timed out - User computer is not working or lacks memory	- Wait a few moments and try again - Exit the program and restart it

Problem	Potential Cause	Resolution
User receives no response when submitting a new briefing	• All required fields may not be completed	• Enter data in required field
Save buttons not visible when trying to make changes	• Only the initiator can make changes. Therefore, the "Save" button is hidden from other Users' view. In addition, changes are not allowed on "Active" briefings.	• Initiator, if briefing is not "Active" contact iss-ia@lbl.gov to report the bug
Links are not working	• LBNL Network is down or timed out	• Wait a few moments and try again • Exit the program and restart it
Cannot open attached documents	• LBNL Network is down or timed out	• Wait a few moments and try again
Cannot preview document	• LBNL Network is down or timed out	• Wait a few moments and try again
Cannot print document	• LBNL Network is down or timed out • Connections between user computer and printer are not working properly	• Wait a few moments and try again • Check connection between computer and printer

For troubleshooting issues not listed, contact iss-ia@lbl.gov.

9.0   User and Maintenance Support

The Lessons Learned/Best Practices Database code is managed by the Office of Contract Assurance (OCA) and maintained by the LBNL IT Division. Users may contact the OCA for guidance on how to complete the fields in the database or request guidance on database protocol. Users may contact IT with problems they have regarding database operability.

The Database is located on the LBNL Homepage A-Z Listing under "Lessons Learned Database" and on the Office of Contract Assurance (OCA) webpage. To use this database, sign in using the LDAP Login and password.

10.0 User Documentation Development

Melanie Gravois, LBNL Office of Contract Assurance (OCA)

Attachment 1 – Lessons Learned/Best Practice Briefings

Field	Responsible Party	Description of Information to be Entered
*Type of Briefing	Initiator	Check either Lessons Learned or Best Practice depending on the type of Briefing that will be developed.
*Event	Initiator	Check either LBNL Event or Other DOE Facility depending on whether the event occurred on LBNL or by an LBNL employee, or if the event occurred on another DOE facility of by another DOE facility employee.
*Category	Initiator	Select the function, operation or activity the Lessons Learned or Best Practice is applicable to.
*Subcategory	Initiator	Select the subcategory(ies) the Lessons Learned or Best Practice is applicable to. This field identifies the target audience.
*Lessons Learned/ Best Practice #	Database	The database automatically identifies this number based on Lessons Learned or Best Practice, Fiscal Year, up to 4 digits. Example: LL07-0001, BP07-0001.
*Title	Initiator	Identify the title commensurate with the Lessons Learned or Best Practice.
Date	Initiator	Identify the date the Lessons Learned or Best Practice was discovered.
*Lessons Learned	Initiator	Identify what the Lesson to be shared with LBNL is. Additionally, identify any actions or suggestions that may be useful in mitigating the immediate condition, improve the processes, etc.
*Best Practice	Initiator	Give a brief statement of the Best Practice, state how the Best Practice was implemented at LBNL and what the cost savings was determined to be.

Attachment 1 – Lessons Learned/Best Practice Briefings (Continued)

Field	Responsible Party	Description of Information to be Entered
*Discussion	Initiator	This field is applicable to the "LBNL Event" Lessons Learned Briefings. Give detail on or summarize the event/issue, including corrective actions taken as applicable. Also discuss whether there have been Lessons Learned Briefings previously generated due to similar events. This field replaces the "Other DOE Facility Event" Briefings' "Summary" field.
*Summary	Initiator	This field is applicable to "Other DOE Facility Event" Lessons Learned/Best Practices Briefings. Copy and paste the information from another DOE facility's Lessons Learned/Best Practices Briefing into this field. This field replaces the "LBNL Event" Briefings' "Discussion" field.
Upload additional information	Initiator	Upload additional supporting documentation or upload a non LBNL Lessons Learned or Best Practice. This documentation may include photos of the event or condition, relevant documentation such as DOE Environmental Safety and Health (ES&H) Lessons Learned Bulletins; Nonconformance Reports (NCRs); Corrective Action Requests (CARs); United States Department of Energy (DOE) Safety Notices, etc.
*Priority Boxes	Initiator	This information is determined in conjunction with the SME and is applicable only to Lessons Learned Briefings. Check the appropriate boxes to indicate if the Lessons Learned is as result of an ORPS Reportable, OSHA Recordable, PAAA or other event.
*ISM Code	Initiator	This is applicable to only Lessons Learned Briefings. Identify which ISM Function was not met and/or was impacted.

Attachment 1 – Lessons Learned/Best Practice Briefings (Continued)

Field	Responsible Party	Description of Information to be Entered
*Initiator	Database	Date is auto generated/recorded when the Initiator clicks the Save button.
	Initiator	• Determine if additional reviewers are required • Route to the appropriate reviewers • Determine if briefing will be saved at any point during development
*Review	Database	The database generates the: • Name of the reviewer when the reviewer signs in • Date stamp when the reviewer clicks the "Approved" button • Pending stamp during the time the document is being reviewed
	Reviewer	• Determine if additional reviewers are required • Determine whether to approve or deny the Briefing • Record the reasons why the Briefing is being denied in the "comments" field prior to denial **NOTE** Where pre-designated reviewers are required, the review is driven based on the Category/ Subcategory selected. Multiple reviewers may be requested by the system to review a Lessons Learned/Best Practice Briefing. Once one reviewer in a particular subcategory has completed the review/approval process, any others in the same subcategory will be automatically removed by the database.

Attachment 1 – Lessons Learned/Best Practice Briefings (Continued)

Field	Responsible Party	Description of Information to be Entered
*OCA Review	Database	The database generates the: • Name of the OCA Reviewer when the Reviewer signs in • Date stamp when the Reviewer clicks the "Approved" button • Pending stamp during the time the OCA Reviewer is reviewing the document
	OCA Management	• Determine if additional reviewers are required • Determine whether to approve or deny the Briefing • Record the reasons why the Briefing is being denied in the "comments" field prior to denial

* = Required fields

Attachment 2 – Lessons Learned Feedback Form

Field	Responsible Party	Input Specifications and Description of Information to be Entered
Lessons Learned #	Database	The database automatically identifies this number based on Lessons Learned or Best Practice, Fiscal Year, up to 4 digits. Example: LL07-0001, BP07-0001.
Feedback by	User	The person who completed the feedback form may opt to enter their name or may remain anonymous.
Organization	User	Identify the appropriate organization.
Received by	User	Select the appropriate choice regarding how the Lessons Learned Briefing was received.
Action Taken	User	Select the appropriate choice regarding how what action was taken as a result of the lessons learned.

Attachment 3 – Example Lessons Learned Briefing Format

Lesson Learned Briefing

No.:
Title:
Event: LBNL Event
Event Date:
Category: -
Lesson Learned Statement:

Discussion:

Analysis:

Priority Boxes: ☐ ORPS Reportable   ☐ OSHA Recordable   ☐ PAAA   ☐ Other

ISM Code:

For other lessons learned and best practices, go to Lessons Learned and Best Practices Library

Attachment 4 – Example Best Practice Briefing Format

Best Practice Briefing

No.: BP07-0005
Title: New Software Product
Event: LBNL Event
Event Date: 05/01/2007
Category: Finance - OMB A-123
Best Practice:
A new software product called "Financial Wiz" was procured and implemented to ensure an integrated financial management system for the Lab. This product incorporates modules for finance and accounting, budgeting, procurement, travel and procurement to offer the Lab a "one-stop-shop" for financial processes. Similar systems were implemented at other DOE facilities and were used to benchmark this concept of integrated financial management systems. It is estimated that this product will save the Lab approximately $2 million over the next 5 years.

For other lessons learned and best practices, go to Lessons Learned and Best Practices Library